

No wound of exit. He saw the patient a few minutes after the injury. He did not complain, was pale, but pulse regular. After temporary dressing he ordered the patient taken to the hospital, which could only be done after two hours. On reception the patient was somewhat pale, pulse regular, but rapid—120. By the Röntgen rays there was plainly seen upon the screen a dark shadow in the region of the heart which exceeded in diameter an ordinary revolver ball. During the night and the following day the patient was feeling very well, no effusion of blood into the pericardium or pleura, no hæmoptysis. In spite of orders the injured man walked about the ward. After fourteen days two Röntgen examinations were made, one of the breast, the other in the dorsal position. In the first was seen two small projectiles lying close together, and at the second one also saw the two bodies, but much larger. Since the distance of the tubes from the plate in both examinations was about 45 cm., it was thought that the ball was situated nearer the pectoral surface. In view of the existence of but a single wound it was singular that at both examinations two projectiles (bodies?) were seen. Since it was impossible to assume that two balls could enter through a single external opening, they thought they were justified in believing that there had been a splitting or division of the ball. Since the opening was quite small, the edges smooth and the pieces of ball lay close together it was concluded that the division of the ball must have taken place inside the body.

ABDOMEN AND ABDOMINAL ORGANS.

I. Tampon Drainage of Abdominal Cavity. DREESMANN (Cologne).—In view of the various disadvantages of the methods of drainage heretofore resorted to, Dreesmann advises the use of glass tubes, 1-4 cm. in diameter and 5-20 cm. long, which are closed below and have lateral openings not over 0.2 cm. in diameter. Tamponing and absorbing gauze is placed in the tube and changed

several times daily, without difficulty and without the slightest discomfort to the patient. Except that in the tube no gauze is introduced into the abdomen, unless it be in cases where a considerable hæmorrhage is anticipated. The method has been followed for three years past, and in cases of perityphlitic abscess, abscess in Douglas' cul-de-sac, after cholecystectomy and choledochotomy, resections of the stomach and colon. In a few cases—3 or 4 times in about two hundred cases—when the openings in the tube were too large, or the gauze was not sufficiently packed, granulations extruded through the openings. By rotatory movements the tube was easily removed; if necessary galvano-caustic destruction of the granulations under illumination, might be resorted to. Intestinal necrosis, which has been observed by others, did not occur. The tube should be stitched to the external parts. [The translator has had such tubes sixteen years, and they are now in his collection of curiosities.]

II. Technique of the Operation for Femoral Hernia.

SPRENGEL (Brunswick) proposes a new procedure in the treatment of certain femoral hernias in women; the operative closure of the internal ring of the femoral canal, made through the abdominal cavity. The operation consists of the following steps:

1. In the flat position with head lowered, free exposure of the sac by linear incision, opening and examination of the same, and clearing of impacted contents.

2. Transrectus laparotomy on the side of the hernia, damming back of the intestines and the organs of the lesser pelvis.

3. Introduction of a Mikulicz forceps through the femoral canal into the sac and invagination of the same into the abdominal cavity.

4. Firm rolling together of the sac and suturing of it over to the internal ring, together with pulling forwards and suturing of the round ligament of the uterus, lying in immediate neighborhood of the inguinal canal.

5. Closure of the abdominal incision and the linear one over the femoral canal.

Five cases, of which the largest standing was of ten months, gave a perfectly satisfactory result. In one of the cases there was double femoral hernia with beginning prolapsus uteri. The uterus could be considerably elevated by the above procedure.

This method is adapted according to Sprengel, not to small recent hernias, but to old ones of large size and to recurrent cases. It is apparently easier and less dangerous than complicated plastic methods.

III. Technique of the Radical Operation for Large Umbilical and Abdominal Hernias. E. GRASER (Erlangen.)—The problem of a good and lasting closure in the case of large hernias is a very difficult one. Even after carefully performed and successful operations, there follows often a relapse. The larger the hernia the smaller the chances of an enduring cure. Busse reckons, from the statistics of Eiselbergs, clinic at Königsberg in 1901, 43 per cent. of relapses. In large hernias the prospects of permanent cure are yet worse. Also, the numerous propositions for new methods and for modifications, everywhere made, speak loudly for the unreliability of the procedures heretofore adopted.

We are at present satisfied with the results obtained by our method of suture after laparotomy, application of sutures in layers with exact union of the fascia. Cases of umbilical hernia are generally more unfavorable on account of the tension of the abdominal wall often present, particularly in obese patients, and also on account of the lateral strain of the abdominal muscles, which endangers the cicatrix. An important advance was made in 1893 by Gersung. It consisted in freely exposing and sewing up the recti muscles. This is often however very difficult and the tension, in large hernias, a great obstacle.

The favorable results obtained by Pfannenstiël in reference to avoidance of cicatricial hernias of the abdomen

by means of his transverse discision of the fascia above the symphysis, brought him very near to this method of avoiding separation of recti. Following this suggestion Menge¹ operated upon some cases. At the conclusion of his communication he recommended a modification, that the anterior sheath of the rectus above all be saved from injury, and he advised incision of the posterior sheath, in order to be able to effect release and suture of the recti as high and as low as possible. Graser had performed this kind of operation four times in cases of large umbilical and abdominal hernias and can strongly recommend the method. The undertaking is a serious one; the operations lasted to three hours, the enormous wound surface exposed and the numerous imbedded sutures in the usually very adipose abdominal walls are a strenuous trial on asepsis; but the course of the cases and the result surpassed all expectations.

The principal incision is made transversely over the highest point of the abdominal tumor, its length varying from 35 to 50 cm.

The hernial sac is opened, adhesions of the intestine freed, the trimmed part of the sac brought to the hernial ring. Now a separation of the sheaths of the recti into an anterior and posterior flap is absolutely necessary, and since such a division in the region of the cicatrised hernial ring is very difficult to effect, the anterior sheath of the rectus is to be divided transversely as far as the external border of the rectus, often widely displaced laterally, and now the entire anterior aponeuritic flap is to be lifted up. Where a division (separation) is not possible, the commissure of the rectal sheath is to be split along the inner border; in doing this the operator must most carefully avoid injuring the anterior layer, and make the division rather towards the posterior layer. Above and below, where the recti approach each other but do not touch, a longitudinal incision is made, near the linea alba, so that the fibrous structure of this remains in contact, as a stiff ligamentous layer.

¹ Zentralblatt für Gyn., 1903.

After preparation of this flap, the peeling out of the rectus is to be effected, and in the most careful manner by the finger or by the Kocher goitre sound. The loosening must be very carefully made as well from the anterior as the posterior sheath, with preservation of the nerves. This is often very troublesome, but is successful with intelligence and saving care. Only when the loosening is completed can suture of the omentum be proceeded with, and best simultaneously with closure of the posterior sheath of the rectus. On account of the tension stay sutures are generally necessary. Above and below the union can only be made in vertical line on account of the linear incision; occasionally some transverse seams may be added to diminish the gaping.

Now follows, and likewise in vertical direction, the union of the rectus muscles by interrupted sutures, some of which are passed deeper; others above these draw the edges somewhat over each other. When the muscles are well isolated, this can be done without much tension, the muscular fibres bear this badly, especially as they are mostly atrophied. But really it is generally astonishing how well-preserved are the bellies of the muscles.

Now the edges of the anterior aponeurosis are trimmed and exactly joined by a right solid row of interrupted sutures (iodized silk or catgut). If there is a surplus (of tissue) one flap can be pushed under the other and thus the line of union doubled, as Mayo has taught.

A hand breadth of skin, together with adipose tissue, can generally be removed, in which case deep sutures must be passed through the adipose.

The fear that the anterior fascia may become necrotic is shown by experience to be groundless; also, that the remaining soft parts may not suffice for covering, by the result in this particularly difficult case. It might indeed be quite impossible to draw together the edges of the hernial ring, with inclusion of the recti muscles; but it is entirely different when the fascia and aponeurosis, thickened by chronic inflammation, are again unfolded.

Most careful attention was given to cessation of bleeding. A glass drainage-tube was only once introduced at the side; the cavity, however, is so large that little can be expected from a single drain. A sand-bag was continuously applied.

In view of the large eventration a course of preparation was followed for about four weeks. It consisted of rest in bed, moderate fluid diet, daily aloin evacuations, compression with heavy bags of shot, daily taxis; every symptom of bronchitis allayed; digitalis administered.

Until the occurrence of the first passage from the bowels the condition of the patient was most serious; after that occurred all anxiety disappeared. Healing of the wound was undisturbed.

The worst case presents now, after the lapse of a year, a most satisfactory condition. The last examination seems to give assurance that there will be no relapse. The operation is particularly to be recommended because it establishes a condition closely approaching the normal anatomical.

KAUSCH (Berlin) has applied a net of silver wire in two cases and had relapses. The stiff net was simply torn. In this case Kausch exposed the recti, united there vertically above and below and drew the hiatus together in star-form with bronze-wire cross-stitches.

SEEFISCH (Berlin) advised giving physostigmine to prevent meteorism after the operation.

HELLER (Stetten) likewise advised physostigmine.

SPRENGEL (Brunswick) had doubled the fibrous ring and thinks that no fibrous tissue should be sacrificed.

WULLSTEIN (Halle, S.) in experiment on the cadaver had drawn down the pectoralis major; had not done it on the subject, however, on account of disturbance of innervation. He had divided the one aponeurosis anteriorly, the other posteriorly, and then the flaps.

In this way the recti came well together.

GRASER warns against sutures through the recti with tension. The suture which is thrown around the recti is

to be unconditionally rejected. Kausch will certainly have relapses. So, also, Graser opposes all muscular plastic as useless.

IV. Operative Treatment of Ulcer of the Stomach.
KRÖNLEIN (Zurich).—It is established that a considerable number of cases are not to be cured through internal therapy and that the immediate favorable results are often disturbed later through reappearance of the symptoms or serious complications. Many of these are finally cured or improved by later operation. The direct mortality from operation has been much reduced and is now eight to ten per cent. The late results are most satisfactory, complete cures in 61 per cent. distinct improvement in 24 per cent.—that is, a distinct result after a year in 85 per cent. The late mortality is very slight, depending mostly on carcinomatous degeneration. The cure comes in part from cicatrization, in part from the reestablishment of proper motion and secretion. Dilatation retires rapidly. The normal secretion and acidity are rapidly reestablished.

If the acidity was normal it sinks after operation below normal and then recovers itself. If it was decreased, then it becomes after operation normal or increased. It is seldom unaffected or permanently lessened. Free HCl is generally present after operation, in small quantities as before; sometimes it is abolished to be later resumed; where there is none before it is generally discoverable after. Subnormal acidity and lack of HCl cannot be considered disadvantageous. They cause no discomfort and are caused by the freer drainage of the stomach. The reflux of bile in time disappears; of pancreatic juice is very rare.

Choice of operation.—The operative aim is not the excision of the ulcer but the restoration of normal function favorable to healing, this is best attained by posterior gastro-enterostomy. Results are startling and more so the greater the previous disturbance. It is of value also in hæmorrhage and callous ulcer.

The excision of the ulcer should be exceptional; be-

cause ulcer is often multiple, hard to find, and its excision sometimes difficult. If undertaken it must often be combined with gastro-enterostomy. Pyloroplasty has no more justification; resection of the pylorus for stenosis and ulcer only when cancer is suspected. Instead, gastro-enterostomy.

Indication for operation.—Stenosis of pylorus of every grade. Every case of gastrectasis and gastroptosis of distinct grade where internal treatment has proved indifferent. Slight but oft-repeated hæmorrhage. In fulminating hæmorrhage the risk of delay till recovery from the attack seems less than that of immediate interference. If immediate operation, gastro-enterostomy merely should be tried. [Many statistics follow.]

RYDYGIER pleaded earnestly for gastrectomy on the ground, that the resulting conditions were nearer normal. Only by removal of the ulcer can we have a lasting cure. Gastro-enterostomy provides favorable drainage only, gastrectomy adds elimination of the ulcer. If there are multiple ulcers at least the worst are removed, "callous ulcers," those which affect the outer walls most. Gastrectomy provides for the mixing of gall and pancreas in the proper place, thus avoiding peptic ulcers. Gastrectomy hastens and assumes the healing of callous ulcer. These are known to heal after gastro-enterostomy, but so is death from unhealed ulcer known to follow the same operation. One operator lost in fifteen months two patients from hæmorrhage and two from perforation, where the ulcer had been left. In two to five and one-half years after 33 gastro-enterostomies only nine remained cured! Statistics fail because if autopsy shows cancer the cases are counted with operations for cancer, whereas cancer is known to develop on ulcer after gastro-enterostomy. The operation is thus twice to blame, once because it has failed to cure and again because it has abetted carcinoma-ulcer.

The frequency of carcinoma-ulcer is five to thirty per cent. If we are to remove cancer at the earliest we can

accomplish it by adopting gastrectomy more frequently for ulcer. We know certainly when cancer has begun by its development into an ulcer. The immediate mortality is more than in gastro-enterostomy, but is now reduced in some clinics to three per cent. But it is less dangerous than cancer. Rydygier presents a case of resection done twenty-five years ago and still in good health.

KOCHER prefers the anterior gastro-enterostomy because it gives better results and is quicker.

KAUSCH first attempts pyloroplasty and if that is impossible then gastro-enterostomy.

KELLING prefers the posterior anastomosis with entero-anastomosis. Has had three deaths in 74 cases. Three-fourths were long cured. A portion had relapses, even serious bleeding, but the latter was more easily cured than before. When an ulcer does not heal spontaneously it is because of unfavorable situation near the pylorus, unsuitable floor (liver or pancreas) gastropstosis and constitutional causes. The first three are favorably influenced by operation.

KÜMMEL pointed to the importance of early full nourishment.

KÖRTE.—In perforation the prognosis is favorable if operated within twenty-four hours.

KATZENSTEIN.—The chemistry of the stomach is overlooked as a factor in gastro-enterostomy. Krönlein has observed the effect on the mechanism of the stomach before and after this operation, through stomach fistulas in dogs. After all sorts of anastomosis fluid from the jejunum was seen to flow into the stomach. This caused of course a disturbance, nervous-reflex as well as chemical. The fat is also digested somewhat in the stomach by the gall and pancreatic juice there. Indeed after gastro-enterostomy the stomach digests fat freely and Katzenstein can give his patients freely of mayonnaise, more than normal man can stand. On the other hand much albumen, which is easily digested in the normal stomach is disturbing to these

stomachs. Conclusions: 1. Gastro-enterostomy causes the ulcer to heal not by prompt emptying, for this may be no more prompt than in the normal stomach; much more from the reduction or disappearance of the formerly excessive HCl. 2. Recommends a preponderance of fats, cream, etc., in the earliest days. This neutralizes the bile and pancreatin, postoperative vomiting is avoided, and the patient recovers rapidly because of the assimilation.

HANS LORENZ (Vienna) reporting Hochenegg's clinic, held resection, circular or segmentary, as rarely justified; and segmentary without at the same time an anastomosis with the bowel as inadequate. In resection one may overlook ulcers, but with anastomosis the stomach is placed in a condition to cure them. He avoids resection even for callous ulcers, unless these are torn during operation, and his results have been remarkable, the healing being anatomical and not clinical. He prefers the posterior operation by suture of the highest point of the jejunum in a direction so that the peristalsis corresponds. Thus is the vicious circle and peptic ulcer avoided.

GRASNER reported specimen of fatal hæmorrhage four years after a posterior anastomosis by the Murphy button. The orifice had contracted to the size of a lead-pencil.

Symptoms of pylorus stenosis may be very slight; retention and vomiting may wholly fail, and pain only be present.

He has abandoned the Murphy button because the saving in time is slight, narrowing follows and he has seen it cut through before adhesion. Pyloroplasty has been abandoned because operation must be repeated for renewed stenosis.

FIBICH presented experiments showing that gastro-enterostomy cured ulcers even when the blood-supply of the stomach was interfered with. Rapid drainage of the gastric juice did not explain the effects of gastro-enterostomy for removal of the gastric juice through a glass tube without

removing the liquified food had no effect on the artificial ulcer.

CLAIRMONT, speaking for Eiselberg's clinic, could not share Krönlein's very favorable opinion as to the late effects. His favorable late results were but 58 per cent.

Ulcers near the pylorus are benefitted more than those at a distance or on the lesser curvature. Attempts have been made to choose the operation according to the location of the ulcer. All plastic operations are rejected. Cases of perigastritic, where there is no gastric ulcer nor cholecystitis, come from duodenal ulcer. Of 172 ulcers 10 were of the duodenum.

BRAUN rejected resection.

NÖTZEL.—Of 13 perforations of the stomach, seven were healed, the earliest of course with the better results. The technic for perforation is excision, a threefold suture, thorough irrigation, tampon and counter drainage on both sides, even when no peritonitis. Most of the healed remained free from all annoyance and a late autopsy showed an ideal cicatrix.

BARTH.—If ulcer of the duodenum is near the pylorus its symptoms may be the same as stomach ulcer, or they may be confined to local pain, or pain near the spine. As most cases die from perforation or hæmorrhage nothing remains but to operate (gastro-enterostomy) in all doubtful cases.

BRODWITZ demonstrated a peptic ulcer which had followed a gastro-enterostomy done two years before for pylorus stenosis. Resection, and thereafter patient was kept on bismuth to prevent recurrence. In spite of this, recurrence five months later. For increasing discomfort, jejunostomy. Still no distinct improvement. It was now discovered that when nutriment entered the fistula it caused a free flow of gastric juice. It is then a mistake to expect jejunostomy to exclude stomach function. The cause of peptic ulcer lies in some unknown individual disposition.

V. On the Diagnosis of Hirschsprung's Disease (Dilatation of the Large Intestine?). NEUGEBAUER (Mährisch-Ostrau).—Both examination and history permit the diagnosis to be made with the highest probability. The previous methods of examination, distention with gas and filling with bismuth are to be avoided, the first because it has caused serious elevation of the diaphragm, the second because of great accumulation of feces. The proposed method is simple, to introduce a spiral metal sound high in the bowel. In these two cases this was easy. It is then skiagraphed and can then be seen in its course to the right of the navel and then to the diaphragm with great distinctness, and left no doubt that one has to deal with an enormously dilated sigmoid. The fluoroscope suffices, and in this way certainty can be at once attained in doubtful cases. The possible course of the sound in normal cases to the ascending colon is extremely unlikely.

One child died of intestinal catarrh and the other was operated upon. There was no valve obstruction in either, and both showed dilatation of the transverse colon and sigmoid, one of the rectum also. In operating, the undilated point of the colon was joined to the rectum. This patient, who never had a natural stool, is entirely cured. The liver dulness is restored. The success of the anastomosis shows the absence of valve obstruction.

VI. On the Further Development of the Operation for High Cancer of the Rectum. KRASKE (Freiburg).—In the past laparotomy has been used as an aid when the approach from below has failed. Kraske proposes the combined operation to be planned deliberately, and begun with laparotomy. There is end to end anastomosis and preservation of the sphincter. The mortality is high, but this is explained by the fact that the operation is adopted for only the severest cases.

KÜMMEL.—When the growth is movable and not circular he stretches the sphincter and draws the growth through it. When higher he uses the parasacral or sacral

route. Still higher, laparotomy. The mesentery is tied off as high as the transverse colon, incision of peritoneum and clearing out of the fibrous tissue of the pelvis, then invagination (through the anus) or closing of the peritoneum and excision of the growth through a pararectal incision.

KOCHER believes that one must first decide if he is to do an upper or lower operation; the former when the growth lies wholly within the region of the abdomen; the sphincter can then be saved; the deeper cancers only from below. The more dangerous combined method only rarely. Once with a sure diagnosis of cancer he operated from below and found no cancer; from above and found a cancer of the colon which was pressed downward by feces.

REHN considers the combined method very dangerous. One should operate rapidly. The pressing end should be sewn in the wound in order to see if the circulation be restored (gangrene) and finish with a second sitting.

HANS LORENZ.—This method must be welcomed as a present advance when (1) it affords a means of extirpation otherwise impossible; (2) when it is less dangerous than that from below; (3) when it is easier, and (4) when more radical. None of these is reached by this method. Even the late results are not better. In man it is more difficult because of the smaller pelvis; in woman much easier, but exactly for this reason is the attack on a high cancer from below easier in her case. The opening of the abdomen is adopted only when a high ligature tears out, the vessel retracts, and uncontrollable hæmorrhage results. Thus teaches Hochenegg's great amount of rectal material.

Small single cancers of the rectum or sigmoid are symptomless and are not discovered until obstructive symptoms appear. They are then crowded down to within reach of the sacral route. The slightest loss of blood is of suspicious significance.

POPPERT.—The mortality is not influenced by the form of anastomosis nor by sacrificing the sphincter so much as has been supposed. Neither is the claim correct that

attempts at anastomosis are a mistake. He has few resulting fistulas. Gersuny's twisting of the gut or Witzel's muscular gluteal anus is a sorry substitute for the natural sphincter.

HACKENBRUCH recommends excision under spinal anæsthesia.

MEYER.—Chief danger is length of time. Depage does a resection of sacrum after Bardenheuer and draws the stump down without suture, in half an hour. In the prone (head down) position the region is most accessible, better to be seen, bleeding less, and narcosis good, a position to be recommended in all operations on these parts.

KÜSTER prefers operation in two sittings in all cases where possible, and often uses lumbar anæsthesia.

BRAUN for a cancer of the lowest colon had first made an artificial anus and then a resection by Murphy button.

SCHLANGE considers it very rare where one can not reach the growth from above alone or below alone. When it can be felt from below it can so be removed. He recommends the making of an artificial anus, not a fecal fistula, rather high, and eight to fourteen days later removes the growth. Thereby is the operation cleaner and the tumor more movable.

JAFFÉ.—As important as it is to retain the sphincter, it must not be forgotten that implantation recurrences are very apt to appear in the rectum; they prefer that field.

KÖNIG has abandoned this operation for cancer but considers it admirable for rectal syphilis which cannot otherwise be saved from fistula.

KRASKE.—The belief that the sphincter action was damaged in the sacral route was a mistake. The later closing of an artificial anus he found not so easy.

VII. On the Value of Excision of the Spleen in Banti's Disease (Enlargement of the Spleen with Sclerosis of the Splenic Vein, Anæmia, Ascites, Liver Cirrhosis). JAFFÉ (Posen).—It is important to remember that the spleen

enlargement precedes these other symptoms by some time. The ascites is an independent symptom and its removal is more than a symptomatic therapy but of much influence. The belief is growing that the liver cirrhosis is a sort of wandering of the disease, and also that the splenic enlargement and the ascites are not obstructive symptoms. A part of the enlargement is due to an active process in the spleen (and liver).

Jaffé operated in an advanced stage of enormous ascites where no improvement was expected and had exceptional results, possibly a cure. This, in spite of advanced liver cirrhosis proven at the operation. So in certain forms of liver cirrhosis splenectomy is to be used in combination with Talma's operation (sewing the omentum to the parietes). (The latter works more no doubt by influencing the serosa than by establishing collateral tracts.)

VIII. On Plastic Operations on the Gall Tract. VON STUBENRAUCH (Munich).—A man had suffered for a year from a bile fistula established for choledochusstenosis from chronic pancreatitis. The pancreatic swelling did not subside, so the fistula became permanent. A cystenterostomy or cystogastrostomy was not feasible, so Stubenrauch prepared a flap of sero-musculo-mucous tissue "with upper base cut from the pyloric portion of the stomach and duodenum. This was rotated 180° and the serous surface applied to the choledochus defect, the mucous membrane sewed to the mucous edge of the little gall-bladder, and finally the stomach and duodenum firmly sewed to the base of the flap, saving a little pucker for drainage." The patient is completely cured of complete fistula with hernia.

On animals he demonstrates similar procedures. They are to be employed where the typical operations are impossible.

IX. Cure of Pancreas Rupture. BLECHER (Brandenburg).—A man received a blow from a hoof on the stomach. The next day gradual loss of strength, pain

in epigastrium, much vomiting. On the fourth day much anæmia, no effusion in abdomen, no peritonitis, indistinct resistance in epigastrium, dulness size of silver dollar between colon and stomach. Diagnosis of circumscribed hæmorrhage from pancreas. On laparotomy a cavity with blood and clots was found behind the elevated colon. A tear in the back of the pancreas, which was tamponed. Sugar in the urine for three days. Finally, complete cure.

X. On the Cause of Death in Acute Pancreatitis. DOBERAUER (Prag).—Fat necrosis and a resulting soap-poisoning has heretofore been held as the cause of the frightfully sudden death. Doberauer cannot accept this, but believes death to be due to poisoning from a substance produced in the diseased (obstructed) organ. Fat necrosis is known to heal; and we often find on autopsy or in operation very little fat necrosis. Neither does Doberauer consider peritonitis a cause of death; lack of gross changes, and of bacteria in effusion, in necrosis and in pancreas. It takes longer to kill through septic process.

We must next take refuge in nervous reflex working through shock to the sympathetic. Rapid cases of such are known but they are then caused by severe mechanical insult to the peritoneum. The influence of the acute disease on the general condition, blood and urine, is not sufficient. Investigation of the latter shows it to be little disturbed.

In dogs the pancreas was doubly ligatured and divided with the production of a disease apparently identical with acute pancreatitis in man. If some of this pancreatic tissue was injected into the abdomens of other dogs the disease was reproduced. The injection of fresh and sterile tissue from pancreas not so affected did not affect the subjects. The obstructed pancreas were in no way necrotic, so the intoxication did not come from such source. Tissue from the ligatured spleen produced no effect. Animals immunized by repeated small injections from the mutilated pancreas were then able to withstand the operation of ligating the

pancreas! They were immune, not to pancreatic substance but to poison contained in the inflamed organ.

URINARY ORGANS.

I. Treatment of Intra-Peritoneal Bladder Tears without Bladder Suture. NEUMANN (Mainz).—The results in laparotomy and suture are not good. There is a growing suspicion that the peritonitis which causes death may be caused by operation. Neumann reports a case where suture had to be abandoned because of collapse and was replaced by a tampon the size of the fist. Twenty hours after some urine was passed naturally. Complete cure. The tampons must not be so large as to compromise the bladder.

EXTREMITIES.

I. Socket Resection in Hip-Joint Disease. BARDENHEUER (Cologne).—To determine the condition of the socket he palpates by finger the inner surface of the pelvis, lifting up the psoas. It is usually found to be diseased because of the lateness of the operation and its resection or curettage shortens much the convalescence. It also enables one to reach all the tuberculous tissue. The real shortening is slight and is compensated in the inclination of the pelvis and the abduction of the femur.

The fourth advantage is that the operation prevents the development of adduction-flexion and the wandering of the femur head past the pelvis.

The fifth, that there usually forms a strong movable union (twice in seven a bony union).

Sixth, good function. The dangers are not greater, and when we consider the lamentable results of the incomplete operation, really less. Of course resection of the socket is combined with excision of the head of the femur, etc.

SPRENGEL has repeatedly used this method (Bardenheuer's), but he does not go so far as Bardenheuer, who attacks the socket in relatively early cases. The attack is